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Ms. Mary Nichols – Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95812

RE: Comments to the "Discussion Draft" of the Potential Updates to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions

[Submitted electronically to Ms. Joelle Howe via email via jhowe@arb.ca.gov]

Dear Ms. Nichols:

Air Products is a global, Fortune 250 company that supplies atmospheric, process, medical and specialty gases, specialty chemicals and process equipment serving a diverse range of industries, including primary metals, refining, electronics, food and glass sectors, as well as healthcare and many other general manufacturing industries. Air Products has over 400 employees and 30 locations in California, including numerous atmospheric gases (oxygen/nitrogen/argon) and hydrogen production facilities, electronic specialty gases and materials production and electricity generating facilities. In addition, Air Products serves a fleet of hydrogen fueling stations across the state, facilitating the transition to carbon-free transportation.

Air Products welcomes the opportunity to submit comments regarding the potential revisions to the Mandatory Reporting Regulation (MRR) as represented in the Discussion Draft (referred to, herein as "DD") issued on July 17th and a revised version (referred to herein ad "RDD") provided to Air Products on August 2nd. We currently report GHG emissions and associated production data for five hydrogen plants in California (and twenty more plants outside California under the US EPA MRR). From this perspective of multiple years of reporting under these programs, we offer the following comments and concerns regarding the potential changes to the CA MRR program.

ISSUES & CONCERNS:

1. ***DD §95105(a)(3) - Air Products supports clarification of reporting responsibility by referencing the original "operational control" definition for the "common control" definition used for applicability determination under the US EPA MRR –*** ARB staff is aware of historical reporting relationships where operational control is shared by entities and the determination of reporting responsibility is based on which entity holds the enabling air permit. This concern arose because US EPA MRR applicability language can result in a contrary determination of which entity holds reporting responsibility. ARB staff has verbally stated the intent (and anticipated language) of the definition clarifications proposed is to strengthen the historical determination of reporting responsibility.

2. ***RDD §95114(e)(1) - Air Products <u>does not</u> support adding a requirement for hydrogen producers to provide carbon and hydrogen content for all feedstocks –*** Adding this requirement will significantly increase the cost of compliance for hydrogen production facilities in the following ways:

    a. Facilities that made the irrevocable decision (under 40CFR98) to employ CO_2 CEMS, consistent with 40CFR98.163(a), made such investments as a means to avoid the more significant costs associated with sampling, analyzing, and measuring the flow of multiple fuel and feedstock streams used to produce hydrogen at that facility. Both US EPA and the CA ARB have accepted CEMS emissions determinations for compliance reporting.

    While the capital, operating, calibration and maintenance costs for proper operation of a CO_2 CEMS is also significant, the "elegance" of a CEMS approach is that it does not require the multiple sampling, analysis flow measurement, and data handling tasks (and costs) required when there are multiple fuel and/or feedstock streams, particularly when those stream include refinery fuel gas (RFG), for which RDD§95114(e)(1)(A) requires daily analysis. Sampling, shipping, contract lab analysis, and data management requires in excess of $500 per sample – so characterization according to §95114(e)(1)(A) standards for each RFG feedstock results in a cost of over $180,000 per year. Costs for installing and maintaining feedstock flow measurement devices (needed to calculate the carbon and hydrogen content of the feedstocks as a "weighted average") further increase the capital, calibration and maintenance costs to satisfy the feedstock characterizations proposed under RDD§95114(e)(1)(A).

    The proposed change to the MRR will require facilities that have already committed to a CEMS approach to incur these large, redundant costs to characterize their feedstock streams.

    b. Facilities that chose to comply with the MRR using the fuel and feedstock mass balance approach, consistent with 40CFR98.163(b), often do so because they employ only a single fuel and feedstock, typically utility natural gas – and as such, the characterization and flow measurement required under the regulations may not be very onerous. In many instances, facilities employ a "billing quality" flow meter (satisfying 40CFR98 QA/QC requirements) and can obtain carbon content data directly from the natural gas distribution facility (employing analytical methods satisfying 40CFR98.164(b)(5) requirements).

    The proposed change to the MRR will require such facilities to obtain a hydrogen content value for their feedstock. Initial inquiries have not demonstrated that hydrogen content is reported by the natural gas distribution utilities. This may require hydrogen production facilities that already have adequate carbon content data to satisfy the estimation of their CO_2 emissions, to sample, ship, analyze, and manage the data in order to obtain a hydrogen content value.

    These added costs are particularly unwarranted because the information the ARB will garner from the characterization of feedstocks will not effectively inform either their statewide emission inventory or support their efforts to derive and administer allowance allocation

benchmarks under the cap & trade program. Air Products engaged ARB staff in an attempt to determine how feedstock characterization data will enhance the ARB's understanding/quality of the components of AB-32, but cannot ascertain any such benefit. Suggestions that theoretical calculations from hydrogen production and feedstock data will be useful, ignore the realities of process variability, equilibrium limitations of the chemical reactions taking place, process-critical recycle streams employed, degradation of catalyst activity over time, equilibrium limitations of crude hydrogen purification and numerous other real-world process deviations from theoretical or stoichiometric calculations as to render such "academic" exercises useless.

3. ***Air Products <u>does not</u> support adding a requirement to break-out the fuel and feedstock emissions by fuel/feedstock type –*** Based on concerns expressed to staff during recent consultations, Air Products is pleased to see a requirement to report separately emissions attributed to "fuel" versus "feedstock," proposed in the July 17th Discussion Draft, has been withdrawn in the Revised Discussion Draft received from staff today. This decision is consistent with the ARB's position revision following Air Products September 3, 2007 letter to Messers. Bode, Thompson and Jenne of the ARB (attached for reference) expressing the concern of disclosure of confidential business information. Air Products is please staff has returned to this historical position of combined "fuel" and "feedstock" emission reporting.

4. ***DD §95114(g) and RDD §95114(l) - Air Products <u>does not</u> support adding a requirement to report CO_2 and CH4 emissions from waste gases directed to hydrogen plant flare systems –*** Air Products' hydrogen production facilities across the U.S. report emissions under 40CFR98 Subpart P. EPA's Subpart P recognizes that flare GHG emissions are negligible for hydrogen plants. Under 40CFR98.30(b)(4), emissions from flares are exempt from reporting unless otherwise required by provisions of another applicable Subpart (in this case, Subpart P). Subpart P does not require reporting GHG emissions from flares.

   Air Products does not understand the ARB's rationale for imposing the additional administration, calculation, recordkeeping and reporting tasks (and costs) of such negligible emissions. The ARB proposal, in RDD §95114(l), to apply the flare emission calculations methodologies of §95113(d) (Petroleum Refineries) is overly burdensome The §95113(d) requirements reference 40CFR98 Subpart Y methods – emission estimating methodologies and reporting requirements specifically tailored by US EPA to Petroleum Refining facilities in recognition that the facilities covered under that Subpart are likely to have flare emissions which are not de minimis… and thus appropriately should have a requirement for estimating and reporting. Applying these methods to the negligible emissions of hydrogen production units is disproportionate. This is further demonstrated by the fact that under the initial versions of California's MRR, when flare emission reporting was imposed, our hydrogen plants could routinely demonstrate that the emissions satisfied the de minimis reporting threshold. Air Products recommends the requirements of §95114(g) and (l) be eliminated.

5. ***DD §95114(j) - Air Products supports reporting separately the "added by-product" versus "on-purpose" hydrogen production from hydrogen plants –*** Where ARB seeks to award allowance allocations based on hydrogen production, it is important to differentiate between hydrogen produced in a manner consistent with the development of the allocation benchmark versus coincidentally produced by-product hydrogen. Air Products supports the application of this distinction to all hydrogen production, both that which occurs within petroleum refineries and that which occurs within merchant hydrogen facilities.

In order to effectively implement this provision, ARB will need to clarify their designation of hydrogen recycle streams and transfers of hydrogen between entities. Air Products recommends ARB engages hydrogen producers with experience with the various process configurations to ensure the regulatory language is consistent with the ARB's intent.

6. ***DD §95114(j) - Air Products supports reporting of hydrogen sold as a transportation fuel, but asks the ARB to clarify some ambiguous details –*** Air Products is proud to supply hydrogen for use as a transportation fuel, but wants to bring to the ARB;s attention, concerns about such reporting. Specifically:
    a. ARD should provide guidance on how to assign (which reporting facility) hydrogen used as a transportation fuel that is withdrawn from a multi-facility pipeline network.
    b. ARB should provide guidance regarding any geographical limitations on the designation as use as transportation fuel, such as if this designation only applies for use as a transportation fuel solely within the state of California
    c. ARB should provide guidance on what uses constitute "transportation" fuel – clarifying, for example, if uses such as fuel for material handling equipment (e.g. fork trucks) are excluded.
    d. ARB should provide guidance about the extent of the obligation for a hydrogen supplier to account for hydrogen sales to a third party which subsequently resells hydrogen for use as a transportation fuel.

7. ***DD §95114(j) - Air Products <u>does not</u> support disclosure of confidential commercial contract terms –*** Air Products is concerned that, despite all best intentions and efforts on the part of the ARB, providing to the ARB extremely confidential contract terms, such as contracted hydrogen supply quantities and all hydrogen supply customers, creates an unprecedented risk to our competitive position. Air Products does not understand the ARB's justification for seeking such confidential information and strongly objects to this proposed reporting requirement.

Air Products hopes that the above comments on the potential MRR revisions illustrate our critical interest and support of CARB's efforts. If you have any questions or need additional information to support Air Products position on these matters, please contact me by phone (610-909-7313) or email (adamskb@airproducts.com).

Respectfully,

Keith Adams, P.E.

Keith Adams, P.E.
Environmental Manager – Climate Change Programs

c: Eric Guter, Patrick Murphy, Peter Snyder, Stephen Crowley – Air Products
David Edwards, Joelle Howe, Richard Bode – California Air Resources Board
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